Safety Data Sheet
TriClean™ 510

Issue Date: 01-Jul-2019

1. Product and Company Identification

1.1 Product Name: TriClean 510

1.2 Intended Product Use: Antimicrobial Membrane Cleaner

1.3 Details of the SDS Supplier

MICRODYN-NADIR US, Inc.

93 South La Patera Lane, Goleta, California 93117, USA

Phone: +1 805-964-8003 Fax: +1 805-964-1235

1.4 Emergency Telephone Numbers

+1 877-741-1029 (USA)

+1 760-602-6096 (International)

2. Hazards Identification

2.1 Classification of the Substance or Mixture:

Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Damage/Irritation Category 2A, Skin Sensitization Category 1, Hazardous to the Aquatic Environment Category 3

2.2 GHS Label Elements and Precautionary Statements

Signal Word:

Warning

Pictogram(s):

Hazard Code(s):	Hazard Statement(s):
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.

Precautionary Code(s):	Precautionary Statement(s):
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P280	Wear protective gloves.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor.
P330	Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P273	Avoid release into the environment.
P501	Dispose of contents/containers in accordance with local/regional/ international regulations.

2.3 Hazards not covered by GHS

None.

3. Composition/Information on Ingredients

3.1 Substances

Component	CAS Number	Concentration
5-chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	< 0.3 wt%
2-methyl-4-isothiazolin-3-one	2682-20-4	< 0.3 wt%
Magnesium nitrate	10377-60-3	< 0.3 wt%
Magnesium chloride	7768-30-3	< 0.1 wt%
Water	7732-18-5	< 99 wt%

4. First Aid

4.1 Description of Aid Measures

General Advice:

Move effected personnel out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled:

If breathed in. move person into fresh air. If not breathing, give artificial respiration. Consult a physician IMMEDIATELY.

In Case of Skin Contact:

Wash off with soap and plenty of water. Consult a physician in the event of persistent irritation.

In Case of Eye Contact:

Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician IMMEDIATELY.

If Swallowed:

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known acute symptoms and effects are described in sections 2 of this safety sheet. Due to the corrosive nature of some materials contained within this product ingestion may lead to ulceration or perforation of the digestive tract.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No additional data available.

5. Fire Fighting Measures

5.1 Suitable Extinguishing Media

Non-flammable use extinguishing media appropriate for the surrounding fire.

5.2 Special Hazards Arising From the Substance or Mixture

Thermal decomposition and vaporization may produce toxic gases/vapors/fumes of hydrogen chloride and oxides of sulfur.

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and full protective clothing.

5.4 Further Information

No additional information.

6. Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use personal projective equipment described in section 8 of this safety sheet. Avoid breathing vapors. Ensure adequate ventilation when mixing cleaning solutions.

6.2 Environmental Precautions

If this product is released into the environment, take immediate steps to stop and contain the release. This material is soluble in water. Take adequate steps to avoid contamination of waterways. Notify downstream users of possible contamination should a release occur and notify local, state, and federal authorities as required.

6.3 Methods and Materials for Containment and Cleaning Up

Absorb in vermiculite, dry sand, or earth. Keep recovered material in a suitable closed container for disposal.

7. Handling and Storage

7.1 Precautions for Safe Handling

Avoid spillage or contact with skin and eyes. Provide adequate ventilation to avoid the formation and inhalation of dust. Use personal protective equipment listed in section 8 of this safety sheet when mixing or handling this material.

7.2 Conditions for Safe Storage

Store in a dry and cool place, keep containers tightly closed. Do not use containers made of carbon or mild stainless steels. Protect against physical damage to containers. The recommended storage temperature for this material is 10-30°C (50-86°F).

8. Exposure Controls/Personal Protection

8.1 Control Parameters

No Data Available.

8.2 Appropriate Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Personnel handling this material should use appropriate safety goggles, clothing, and gloves. Wash hands before breaks and at the end of workday. Provide eye wash station, safety shower, as well as sufficient ventilation to prevent dust formation.

8.3 Personal Protective Equipment

Eye/Face Protection

Safety glasses with side-shields conforming, tested, and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). DO NOT wear contact lenses when mixing this product in solution.

Skin Protection

Wear appropriate protective clothing to prevent exposure and skin contact. When handling this product use gloves made from nitrile rubber, neoprene, butyl rubber, viton, polyethylene, or PVC. Inspect gloves prior to use and use proper glove removal techniques to avoid skin contact. Work boots are appropriate for normal handling. Impervious apron, gloves, or gauntlets should be used when mixing cleaning solutions. When mixing or in the case of spills rubber overshoes are recommended. Properly discard contaminated gloves after use. Wash and dry hands.

Respiratory Protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) for respiratory protection when dust exposure is expected or when mixing cleaning solutions with this product. For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges.

9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

(a)	Physical State:	Liquid
(b)	Appearance:	Clear Liquid
(c)	Odor:	Odorless to Mild
(d)	Odor Threshold:	No Data Available
(e)	pH:	pH 4-5
(f)	Melting/Freezing Point:	0 °C
(g)	Initial Boiling Point and Boiling Range:	100 °C

(h)	Flash Point:	No Data Available
(i)	Evaporation Rate:	< 1.0 Water
(j)	Flammability:	No Data Available
(k)	Upper/Lower Flammability or Explosive Limits:	No Data Available
(l)	Vapor Pressure:	Similar to Water
(m)	Vapor Density:	Similar to Water
(n)	Relative Density:	Similar to Water
(o)	Water Solubility:	Completely Soluble
(p)	Partition Coefficient: n-Octanol/Water	No Data Available
(q)	Auto-Ignition Temperature:	No Data Available
(r)	Decomposition Temperature:	No Data Available
(s)	Viscosity:	Similar to Water

10. Stability and Reactivity

10.1 Reactivity

May react with oxidizing agents, reducing agents, mercaptans, and amines.

10.2 Chemical Stability

This product is stable under conditions when following recommended use.

10.3 Possibility of Hazardous Reactions

No data available.

10.4 Conditions to Avoid

Avoid contact with strong oxidizing agents, reducing agents, mercaptans, and amines. Avoid high temperatures to protect the product quality.

10.5 Incompatible Materials

Strong oxidizers, reducing agents, mercaptans, and amines.

10.6 Hazardous Decomposition Products

Thermal decomposition and vaporization may produce toxic gases/vapors/fumes of hydrogen chloride and oxides of sulfur.

11. Toxicological Information

11.1 Likely Routes of Exposure

Ingestion, or eye contact.

11.2 Acute Toxicity

This product is harmful if ingested potentially causing chemical burns, ulceration or perforation of the digestive tract, stomach pain, vomiting, and discomfort if swallowed. Testing of individual chemical components contained in this product have founds its ingredients to exhibit acute toxicity in the following ranges.

LD_{50} (Oral) - Rat: > 2000 mg/kg

Skin Corrosion/Irritation

Contact between skin and this product may cause skin irritation depending on the concentration of the solution and the duration of exposure. Testing of individual chemical components contained in this product have founds its ingredients to cause mild skin irritation.

Serious Eye Damage/Irritation

Contact between the eyes and this product may cause permanent damage or irritation depending on the concentration and duration of exposure. Testing of individual chemical components contained in this product have founds its ingredients to cause eye irritation with acute exposure.

Respiratory or Skin Sensitization

Prolonged or repeated exposure may cause allergic reactions in certain individuals. Direct inhalation may cause irritation to severe burns of the nose, throat, and lungs depending on the concentration and duration of exposure.

11.3 Germ Cell Mutagenicity

No data available.

11.4 Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC, ACGIH, NTP, or OSHA.

11.5 Reproductive Toxicity

No data available.

11.6 Specific Target Organ Toxicity - Single Exposure

No data available.

11.7 Specific Target Organ Toxicity - Repeated Exposure

No data available.

11.8 Aspiration Hazard

No data available.

12. Ecological Information

12.1 Toxicity

This product may be harmful to aquatic life if released in sufficient concentrations. Testing of individual chemical components contained in this product have founds its ingredients to exhibit toxicity towards aquatic organisms in the following ranges under methods contained in EPA/600/4-90/027F and EPA/600/4-91/002

Toxicity to Fish

LC_{50} Pimephales Promelas (Fathead Minnow): > 100 mg/L (48 hours)

Toxicity to Invertebrates

EC_{50} Ceriodaphina Dubia (Water Flea):	> 150 mg/L	(48 hours)

12.2 Persistence and Degradability

No data available.

12.3 Bioaccumulative Potential

No data available.

12.4 Mobility in Soil

No data available.

12.5 Results of PBT anb vPvB Assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other Adverse Effects

No data available.

13. Disposal Considerations

13.1 Waste Disposal

Spent Cleaning Solution

Spent cleaning solutions should be disposed of in accordance with local, state, and federal regulations governing individual users or sites.

Unused Product

Unused product should be disposed of at an approved waste treatment/disposal facility in accordance with applicable local, state, and federal regulations. Do not dispose of unused product through normal garbage or sewer systems.

Contaminated Containers

Treat contaminated containers in the same manner as unused product for the purpose of disposal.

14. Transportation Information

14.1 DOT (US Department of Transportation)

Not dangerous goods.

14.2 IMDG (International Maritime Dangerous Goods)

Not dangerous goods.

14.3 IATA (International Air Transportation Association)

Not dangerous goods.

15. Regulatory Information

15.1 US Federal Regulations

SARA 302 Components

This product does not contain chemical components subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This product does not contain chemical components that exceed the threshold reporting limits of SARA Title III, Section 313.

SARA 311/312 Hazard Category

Acute health hazard.

TSCA (US Toxic Substances Control Act)

All components of this product are listed on the TSCA inventory.

15.2 US State Regulations

California Proposition 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right to Know

5-chloro-2-methyl-4-isothiazolin-3-one	CAS No: 26172-55-4

New Jersey Right to Know

5-chloro-2-methyl-4-isothiazolin-3-one	CAS No: 26172-55-4
Water	CAS No: 7732-56-8

Pennsylvania Right to Know

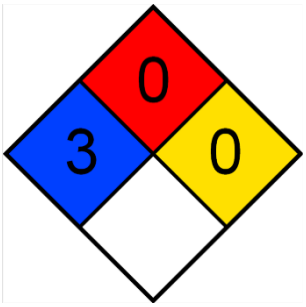
5-chloro-2-methyl-4-isothiazolin-3-one	CAS No: 26172-55-4

16. Other Information

16.1 Hazardous Material Information System (HMIS III)

HEALTH	3	Serious Hazard
FIRE	0	Minimal Hazard
PHYSICAL HAZARD	0	Minimal Hazard
PPE	B	Safety Glasses and Gloves

16.2 National Fire Protection Association (NFPA Standard 704)



Health	[3]: Serious Hazard
Fire	[0]: Will Not Burn
Reactivity	[0]: Normally Stable
Special	None

16.3 Revision Information

Product:	TriClean 510
Revision:	1
Issue Date:	01-Jul-2019

16.4 Further Information

The information contained in this sheet is believed to be correct but does not purport to be all inclusive and should be used only as a guide. The information in this document is based on the present state of knowledge and relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. This information is, to the best of MICRODYN-NADIR US, Inc.'s knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee express or implied is made with respect to such information. Users should make their own investigations to determine the suitability of the information for their particular purposes.